

Economics and Enforcement

Peter Berck

January 9, 2008

Love Canal

- Buried Toxic Waste
- Converted to a school yard and residences
- Waste barrels surfaced
- The incident that sparked CERCLA

Cummings Diesel

- Cheated.
- One engine for the lab-bench and another for the road.
- 6% of total NOX

Diesel Manufacturers Settle Suit With EPA; Will Pay \$1.1 Billion

By Joby Warrick and Michael

The Washington Post Oct 23, 1998.

WASHINGTON

Diesel engine manufacturers Thursday agreed to pay \$83 million in fines and spend \$1 billion on environmental improvements to avoid a federal lawsuit over alleged cheating on engine performance tests.

American Electric Power

- NSR. Cheated.

- *Copyright New York Times Company Oct 9, 2007*

[Author Affiliation] Matthew L. Wald reported from Washington and Stephanie Saul from New York.

American Electric Power, one of the nation's largest utilities, is expected to announced that it has reached an agreement to settle a long-running lawsuit over emissions from its coal-fired power plants.

- The suit was filed eight years ago by the Environmental Protection Agency, 8 states and 14 environmental organizations.
 - The company will spend more than \$1 billion on improvements to its plants over the next 12 years, will pay a civil penalty of \$15 million and will spend another \$60 million on environmental mitigation, a spokesman, Pat D. Hemlepp, confirmed Monday night, after The Associated Press carried a report on the settlement. A.E.P. will not admit to any wrongdoing, Mr. Hemlepp said.

Exxon Valdez

- Drunk
- Now escort vessels and double hulls coming
- \$1 billion damages (still litigated)
- \$2 billion cleanup and restoration

No Enforcement = No Environment

- Clean up only until the marginal cost of cleanup equals the marginal penalty.
- No enforcement= no penalty.
- = no clean up.

Good Guys

- If cheating is an important part of profit
 - Non cheaters will be driven out of business by cheaters
- No enforcement= No environment

Capture

- aka “stakeholder process”
- regulator acts in the interests of the regulated
- Narrow interests with lots to loose will pay politicians (legally as campaign contributions or otherwise)
- Diffuse interests (general public) won't notice the larger CAFO or the occasional spill
- Until love canal, and then its too late.

How much does Env cost?

- Unclear.
- Estimates are on the order of 1% of GDP for all recognizable costs.

Will the Economy Live?

- Marginal Changes
 - What happens to the Ag. economy if they must use 1000 Ac feet less water?
 - What happens if they can use some pesticides/herbicides/fungicides and not other?
 - The LOW value use gets pushed out.

Price: An Example

- Cotton is marginal crop
 - Acreage adjusts to economic conditions.
 - Assume Average Yield
 - 70 cents per lb for cotton
 - 12 c is value of cotton from additional m^3 of water.
 - Dinar and Ariel; Calif. '91
 - UC Coop Ext cost data only 8 c / m^3
 - Kislev, Israel Av. 1980-88. 8.7 c/ m^3

Other Uses

- Citrus, Melons, Nuts and so on
 - Often earn double to triple per meter-cubed compared to cotton
- M&I:
 - Can pay for projects 10x as costly as cotton. Hence value is 10x cotton.

Example

- If there is less water what will get cut back?
 - Melons?
 - Irrigated Grain?
 - Tree crops?
- The low valued crops tend to go out first and they have low value added in processing as well.

Scale

- Agriculture uses about 75% of the water in CA.
- Agriculture produces about 23 billion of a gross state product of 1.6 trillion.
- Regulating agricultural use of water or water pollution simply can't sink CA.

Non-Compliance Costs

- Recreation: beaches, lakes, rivers and so on.
 - Big industry.
- Increased cost to make water drinkable.
- Decreased Human Health